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The reasons for the rejection of goods in these plants are as follows:

1. Chemical elements not up to standard
2. Foreign substances found in the steel
3. Occurrence of white spots and cracks in the finished product
4. Abnormal formation of steel
5. Loss of carbon content
6. Lack of firmness of the finished product
7. Cracks and black spots on the surface of the finished product
8. Incorrect dimensions of the finished product

[Data in tabulated form follows on the next page.]

- 2 -

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1. Roller and Ball Bearing Production in Fu-shun Iron and Steel Plant

Reasons for and Weight of Rejected Goods (tons)													
1950	Production (tons)	Qualified Goods (tons)	Qualified Goods (%)	Pits Caused By Sand	Portions of Ball Bearings Sheared	Shrink- age	Incorrect Dimensions	Air Bubbles	Cracks	Chemical Reasons	Total	Rate of Rejected Goods (%)	
Jan	135.356	121.656	89.8	5.655						8.045	13.700	10.2	
Feb	145.815	139.215	96.0								6.600	4.0	
Mar	92.715	81.860	88.5	8.575	2.280						10.855	11.5	
Apr	99.750	83.165	83.7	7.125	2.335					7.125	16.585	16.3	
May	80.560	78.205	97.1	0.845	0.510					1.000	2.855	2.9	
Jun	63.550	60.905	95.2	0.600	0.895					1.150	2.645	4.8	
Total	617.746	565.006	91.46	22.800	6.020					17.320	52.740	8.54	

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- 3 -

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50X1-HUM

2. Roller and Ball Bearing Production in Pen-ch'i Iron and Steel Plant

1950	Production (tons)	Qualified Goods (tons)	Qualified Goods (%)	Reasons for and Weight of Rejected Goods (Tons)				Rate of Rejected Goods (%)
				Chemical Reasons	Taper	Cracks	Total	
Jan	40.620	40.330	99.29	0.290			0.290	0.71
Feb	63.200	62.315	99.6	0.885			0.885	0.4
Mar	52.000	49.800	95.77	1.200	1.000		2.200	4.23
Apr	65.400	63.985	99.121	0.575		0.840	1.415	0.879
May	78.630	78.630	100.00					
Jun	51.585	47.085	91.18		4.500		4.500	8.72
Total	351.435	342.145	97.39	2.950 31.6%	5.500 59.2%	0.840 9.2%	9.290	2.61

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- 4 -

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CONFIDENTIALB. Statistics and Reasons for Goods Rejected After Plant Inspection

According to reports from the Wa-fang-tien Roller and Ball Bearing Plant, the outer defects such as cracks, lines, sand bubbles, and sediment are reasons for roller and ball bearings being rejected.

During May and June 1950, the Fu-shun Iron and Steel Plant made 15 reports on rejected roller and ball bearings, and the Pen-ch'i Iron and Steel Plant made 13 reports on rejected roller and ball bearings. Goods rejected averaged 35.5 percent of the total roller and ball bearings produced.

Statistics on rejected goods for roller and ball bearings from January to June 1950 were as follows:

Pen-ch'i Iron and Steel Plant -- 14.88 percent of total goods produced (total steel consumption was 318 tons 364 kilograms, of which 47 tons 255 kilograms were wasted)

Fu-shun Iron and Steel Plant -- 14.07 percent of total goods produced (total steel consumption was 231 tons 321 kilograms, of which 32 tons 539.5 kilograms were wasted)

The following table gives further breakdown on rejected goods from January to June 1950:

	No of Rejected Goods	Wt of Rejected Goods (kg)	Value of Rejected Goods (100 million NE currency)	Loss of Working Hours	Note
Fu-shun Plant	19612	32,539.54	65.07	5.11	Transportation expenses on rejected goods not calculated
Pen-ch'i Plant	25422	47,255.36	94.57	7.46	
Total	45034	79,794.90	159.64	12.57	

According to experts, the "B-grade" roller and ball bearings manufactured by the Pen-ch'i Iron and Steel Plant should be classified as rejected goods. The following table gives the breakdown of elements used in roller and ball bearings steel manufactured by this plant:

<u>Furnace No</u>	<u>Amount of Elements Used Which Are Not up to Standard (%)</u>	<u>Grade of Goods</u>
2-302	Mn 0.62, Cr 1.68	B
3- 90	Cr 0.88	B
3- 91	C 1.25	B
3- 94	Cr 1.04	B
3- 95	Cr 1.13	B
3-106	Cr 1.09, Si 0.38	A
3-125	C 0.88, Si 0.43	B

- 5 -

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50X1-HUM

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<u>Furnace No</u>	<u>Amount of Elements Used Which Are not up to Standard (%)</u>	<u>Grade of Goods</u>
4- 76	Cr 1.69	B
4-105	C 0.70	B
4-106	C 0.85	B
4-112	C 0.80	B
4-116	C 0.78	B
4-138	Cr 1.71	B
3-171	Cr 1.94	B
1-115	Cr 1.99, Si 0.48	B
1-116	Cr 1.80	B
4-201	S 0.031	A
1-170	Si 0.58	B
3-260	P 0.035	B
1-179	Cr 1.73, Si 0.55	B
1-171	P 0.045	B

Note: The standard amount of elements used in roller and ball bearing steel are as follows:

C 0.9-1.2%	Cr 1.2-1.6%
Si 0.35%	P 0.03%
S 0.03%	Mn 0.6%

- E N D -

50X1-HUM

- 6 -

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